Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently amended) A method in a data processing system for processing instructions, the method comprising:

responsive to receiving an instruction at a processor in the data processing system, determining whether an indicator is associated with the instruction, wherein ~~the indicator identifies~~ a threshold value is located in the indicator; and

counting executions of the instruction if the indicator is associated with the instruction and if a time for executing the instruction exceeds the threshold value.

2.   (Original) The method of claim 1, wherein the counting step comprises:

determining whether the time to execute the instruction exceeds the threshold value;

generating, by an instruction cache, a signal indicating that executions of the instruction are to be counted if a determination is made that the time for executing the instruction exceeds the threshold value;

receiving the signal generated by the instruction cache at a performance monitor unit; and

incrementing a counter in the performance monitor unit each time the instruction is executed in response to receiving the signal from the instruction cache.

3.   (Original) The method of claim 1, wherein the threshold value is a three bit value located in the indicator.

4.   (Original) The method of claim 1, wherein the indicator is located in a shadow memory.

5.   (Original) The method of claim 1, wherein the instruction is received in a bundle and wherein the indicator comprises at least one spare bit in a field in the bundle.

6.   (Original) The method of claim 1, wherein the counting step comprises:

determining whether the time to execute the instruction exceeds the threshold value;

generating, by an instruction cache, a signal indicating an interrupt is present if a determination is made that the time for executing the instruction exceeds the threshold value;

receiving the signal generated by the instruction cache at an interrupt unit; and

executing code, by the interrupt unit, to count each execution of the instruction.

7.   (Original) The method of claim 6, wherein the code also gathers information from a call stack for the instruction.

8.   (Original) The method of claim 1, wherein the threshold is a number of clock cycles.

9.   (Currently amended) A method in a data processing system for processing instructions, the method comprising:

receiving an <u>initial</u> instruction at a processor in the data processing system, wherein the <u>initial</u> instruction indicates that counting execution of a subsequent instruction occurs if a time to execute the subsequent instruction exceeds a threshold value ~~identified~~ <u>located</u> in the <u>initial</u> instruction; and

counting executions of the subsequent instruction if the time to execute the <u>subsequent</u> instruction exceeds the threshold value.

10.   (Currently amended) The method of claim 9, wherein the counting step comprises:

determining whether the time to execute the subsequent instruction exceeds the threshold value;

generating, by an instruction cache, a signal indicating that each execution of the subsequent instruction [[are]] <u>is</u> to be counted if a determination is made that the time for executing the subsequent instruction exceeds the threshold value;

receiving the signal generated by the instruction cache at a performance monitor unit; and

incrementing a counter in the performance monitor unit each time the <u>subsequent</u> instruction is executed in response to receiving the signal from the instruction cache.

11.   (Currently amended) A method in a data processing system for processing data, the method comprising:

responsive to a request to access data, determining whether an indicator is associated with the data, wherein ~~the indicator identifies~~ a threshold value <u>is located in the indicator</u>; and

counting access to the data if the indicator is associated with the data and if a time needed to access the data exceeds the threshold value.

12.   (Original) The method of claim 11, wherein the counting step comprises:

generating an exception if the indicator is associated with the data and if the time to access the data exceeds the threshold value.

13.   (Original) The method of claim 11, wherein the counting step comprises:

determining whether the time to access the data exceeds the threshold value;

generating, by a data cache, a signal indicating that accesses of the data are to be counted if a determination is made that the time for accessing the data exceeds the threshold value;

receiving the signal generated by the data cache at a performance monitor unit; and

incrementing a counter in the performance monitor unit each time the data is accessed in response to receiving the signal from the data cache.

14.   (Currently amended) The method of claim [[1]] 11, wherein the counting step comprises:

determining whether the time to access the data exceeds the threshold value;

generating, by a data cache, a signal indicating an interrupt is present if a determination is made that the time for accessing the data exceeds the threshold value;

receiving the signal generated by the data cache at an interrupt unit; and

executing code, by the interrupt unit, to count accesses of the data.

15.   (Original) The method of claim 11, wherein the data is located in a memory location.

16.   (Currently amended) A data processing system for processing instructions, the data processing system comprising:

determining means, responsive receiving an instruction at a processor in the data processing system, for determining whether an indicator is associated with the instruction, wherein the indicator identifies a threshold value is located in the indicator; and

counting means for counting executions of the instruction if the indicator is associated with the instruction and if a time for executing the instruction exceeds the threshold value.

17.   (Original) The data processing system of claim 16, wherein the counting means comprises:

determining means for determining whether the time to execute the instruction exceeds the threshold value;

generating means for generating, by an instruction cache, a signal indicating that executions of the instruction are to be counted if a determination is made that the time for executing the instruction exceeds the threshold value;

receiving means for receiving the signal generated by the instruction cache at a performance monitor unit; and

incrementing means for incrementing a counter in the performance monitor unit each time the instruction is executed in response to receiving the signal from the instruction cache.

18.   (Original) The data processing system of claim 16, wherein the counting means comprises:

determining means for determining whether the time to execute the instruction exceeds the threshold value;

generating means for generating, by an instruction cache, a signal indicating an interrupt is present if a determination is made that the time for executing the instruction exceeds the threshold value;

receiving means for receiving the signal generated by the instruction cache at an interrupt unit; and

executing means for executing code, by the interrupt unit, to count each execution of the instruction.

19.   (Currently amended) A data processing system for processing instructions, the data processing system comprising:

receiving means for receiving an <u>initial</u> instruction at a processor in the data processing system, wherein the <u>initial</u> instruction indicates that counting execution of a subsequent instruction occurs if a time to execute the subsequent instruction exceeds a threshold value ~~identified~~ <u>located</u> in the <u>initial</u> instruction; and

counting means for counting executions of the subsequent instruction if the time to execute the <u>subsequent</u> instruction exceeds the threshold value.

20.   (Currently amended) The data processing system of claim 19, wherein the counting means comprises:

determining means for determining whether the time to execute the subsequent instruction exceeds the threshold value;

generating means for generating, by an instruction cache, a signal indicating that each execution of the subsequent instruction [[are]] <u>is</u> to be counted if a determination is made that the time for executing the subsequent instruction exceeds the threshold value;

receiving means for receiving the signal generated by the instruction cache at a performance monitor unit; and

incrementing means for incrementing a counter in the performance monitor unit each time the <u>subsequent</u> instruction is executed in response to receiving the signal from the instruction cache.

21.   (Currently amended) A data processing system for processing data, the data processing system comprising:

determining means, responsive to a request to access data, for determining whether an indicator is associated with the data, wherein ~~the indicator identifies~~ a threshold value <u>is located in the indicator</u>; and

counting means for counting access to the data if the indicator is associated with the data and if a time needed to access the data exceeds the threshold value.

22.   (Original) The data processing system of claim 21, wherein the counting means comprises:

generating means for generating an exception if the indicator is associated with the data and if the time to access the data exceeds the threshold value.

23.   (Currently amended) A computer program product in a computer readable<u>, recordable-type</u> medium for processing instructions, the computer program product comprising:

first instructions for receiving an instruction at a processor in the data processing system, responsive to determining whether an indicator is associated with the instruction, wherein ~~the indicator identifies~~ a threshold value <u>is located in the indicator</u>; and

second instructions for counting executions of the instruction if the indicator is associated with the instruction and if a time for executing the instruction exceeds the threshold value.

24.   (Currently amended) A computer program product in a computer readable<u>, recordable-type</u> medium for processing instructions, the computer program product comprising:

first instructions for receiving an <u>initial</u> instruction at a processor in the data processing system, wherein the <u>initial</u> instruction indicates that counting execution of a subsequent instruction occurs if a time to execute the subsequent instruction exceeds a threshold value ~~identified~~ <u>located</u> in the <u>initial</u> instruction; and

second instructions for counting executions of the subsequent instruction if the time to execute the <u>subsequent</u> instruction exceeds the threshold value.

25.   (Currently amended) A computer program product in a computer readable<u>, recordable-type</u> medium for processing data, the computer program product comprising:

first instructions for determining whether an indicator is associated with the data, responsive to a request to access data, wherein ~~the indicator identifies~~ a threshold value <u>is located in the indicator</u>; and

second instructions for counting access to the data if the indicator is associated with the data and if a time needed to access the data exceeds the threshold value.